

# Santa Cruz County Water Quality Assessment

Phase II Municipal Storm Water  
May 16, 2008

# Background

- Storm Water Management Plan (SWMP) enrollment process
  - Concept presented to Board Dec. 2007
  - Feb. 15 letter included schedule and expected SWMP content
  - Schedule modified
    - Late start
    - Board meeting location closer to Santa Cruz
    - Provided more time up front for updating of SWMP

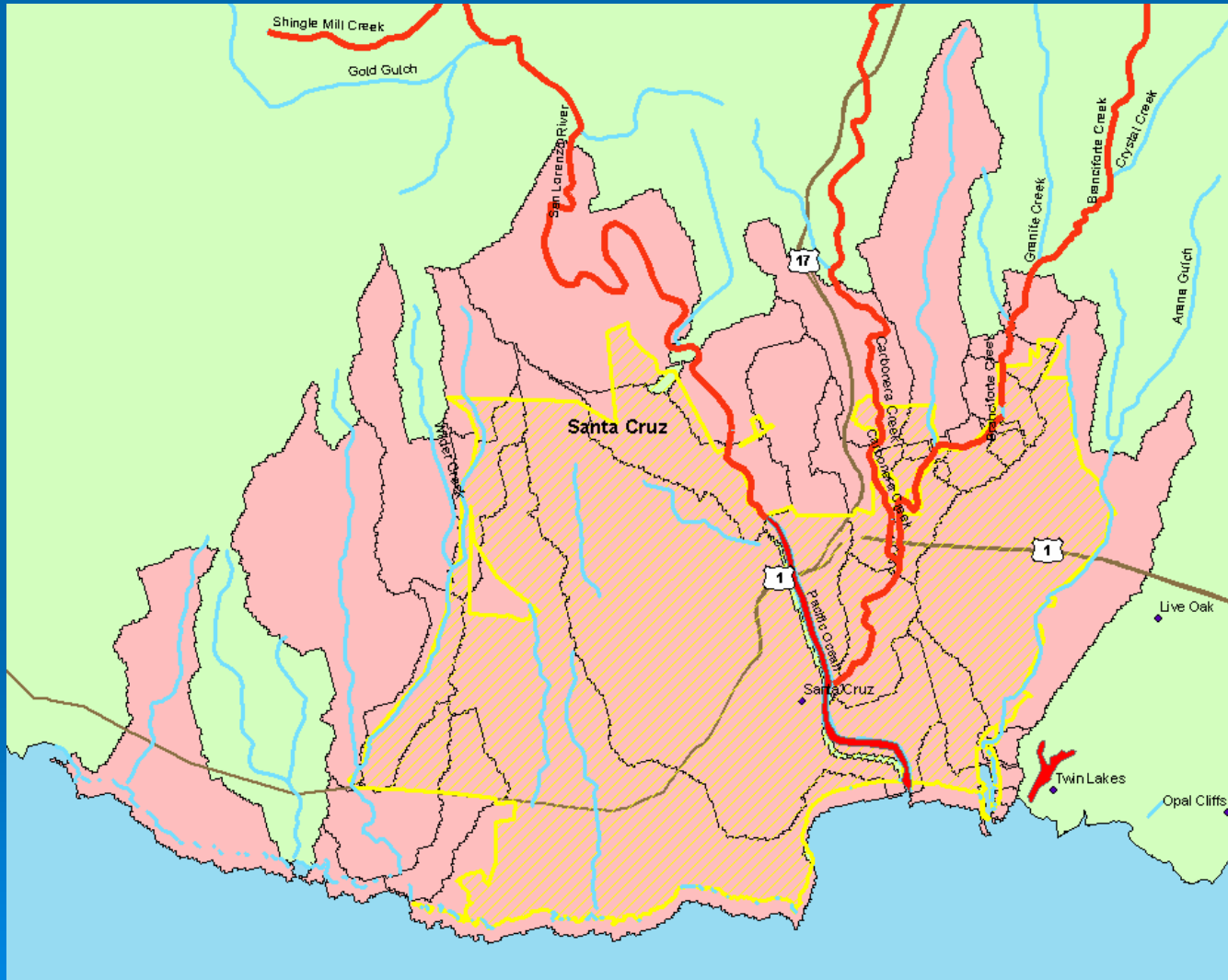
# Schedule

Now – July 25, 2008	Municipalities update SWMPs, release for public comment, submit to Water Board
July 28, 2008 – August 22, 2008	Water Board reviews and comments on SWMPs
August 25, 2008 – September 19, 2008	Municipalities address comments on SWMPs and resubmit to Water Board
September 22, 2008 – October 17, 2008	Water Board reviews SWMPs and makes edits if necessary, releases for public review and comment
October 20, 2008 – December 12, 2008	Public review and comment period
March 2009	Water Board Meeting to consider adoption of SWMPs

# Purpose of Today's Meeting

- Identify water quality problems
- Identify known sources and potential sources
- Tailor SWMPs to target water quality problems and sources
  - Pollutants of concern must be addressed by basic BMPs to achieve the Maximum Extent Practicable (MEP) standard
  - Primary pollutants of concern must be targeted by more specific BMPs to achieve Water Quality Standards
    - Total Maximum Daily Loads (TMDLs), 303d listed impaired water bodies, other identified high priority problems

# City of Santa Cruz



# City of Santa Cruz

## ➤ TMDLs Adopted by Water Board

- Fecal Indicator Bacteria
  - San Lorenzo River, San Lorenzo Lagoon, Branciforte Creek, Carbonera Creek
  - Sources: Urban runoff, septage disposal, nonpoint sources, natural sources
- Sediment
  - San Lorenzo River, Carbonera Creek
  - Sources: Land development, urban runoff, roads, nonpoint sources, silviculture

# TMDLs

- SWMPs must address each TMDL adopted by Water Board
- Review Resolutions and Staff Reports for what is required
- Request Implementation/Load Reduction Plans be included in SWMPs to address each TMDL pollutant
  - Easy way to track TMDL efforts
  - SWMPs must be clear where each TMDL is addressed in the document

# City of Santa Cruz

## ➤ 303d List of Impaired Water Bodies

- Branciforte Creek
  - Sedimentation (Sources: Road construction, nonpoint sources, silviculture)
    - Currently being addressed under the Implementation Plan for the San Lorenzo River Sediment TMDL



# City of Santa Cruz

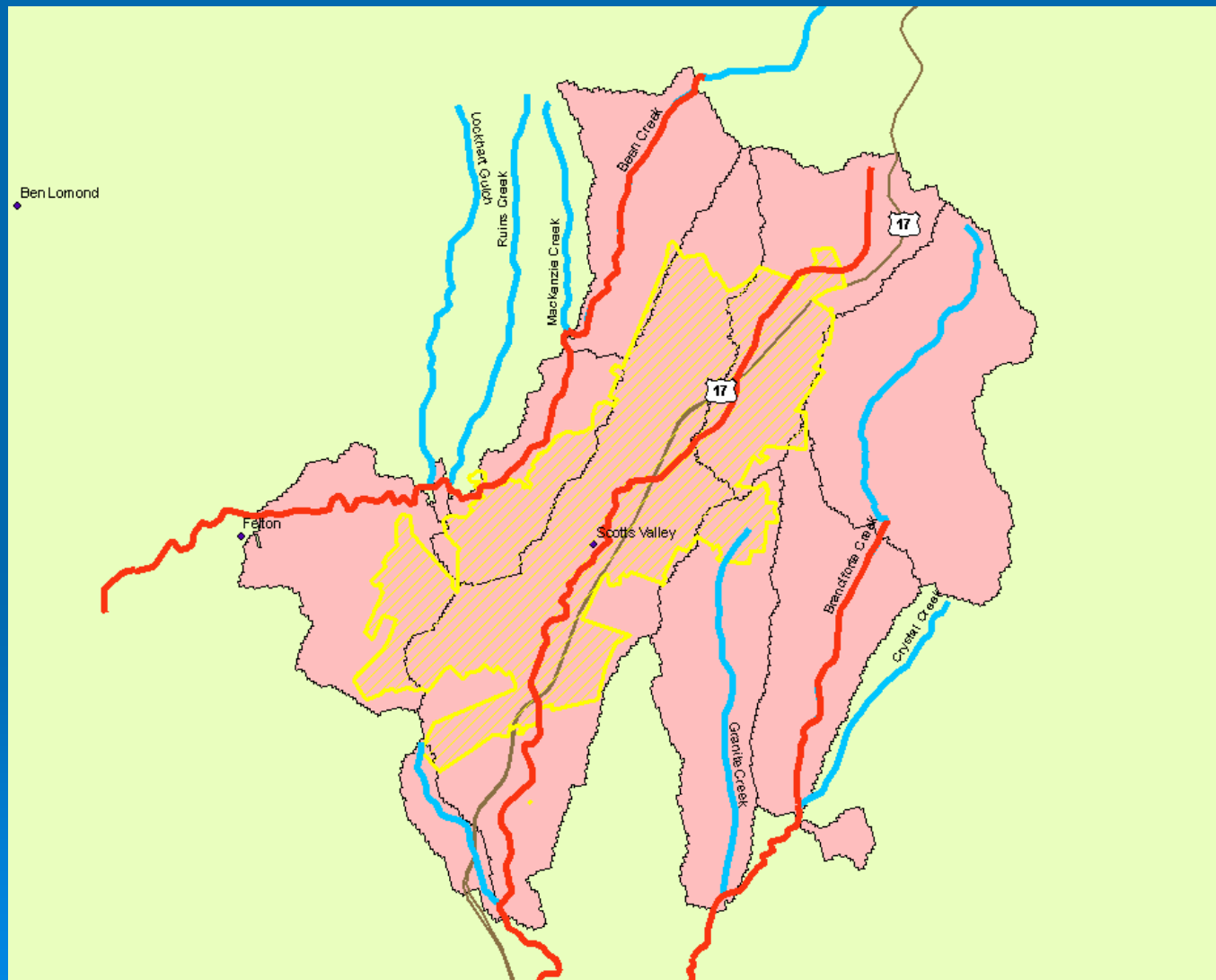
## ➤ Other Water Quality Issues

- Central Coast Ambient Monitoring Program
  - Toxicity
    - Sub-lethal effects observed in San Lorenzo River
    - One lethal effect observed in Arana Gulch
- Monterey Bay Sanctuary Citizen Watershed Monitoring Network
  - Copper and Zinc
    - Observed at elevated levels in storm water discharges during first significant storm events of rain seasons
- Additional feedback from 5/16/08 meeting
  - Fecal Indicator Bacteria from transients

# City of Santa Cruz

- Summary of Primary Pollutants of Concern
  - Fecal Indicator Bacteria
  - Sedimentation

# City of Scotts Valley



# City of Scotts Valley

## ➤ TMDLs Adopted by Water Board

- Fecal Indicator Bacteria
  - San Lorenzo River, San Lorenzo Lagoon, Carbonera Creek
  - Sources: Urban runoff, septage disposal, nonpoint sources, natural sources
- Sediment
  - San Lorenzo River, Carbonera Creek
  - Sources: Land development, urban runoff, roads, nonpoint sources, silviculture

# City of Scotts Valley

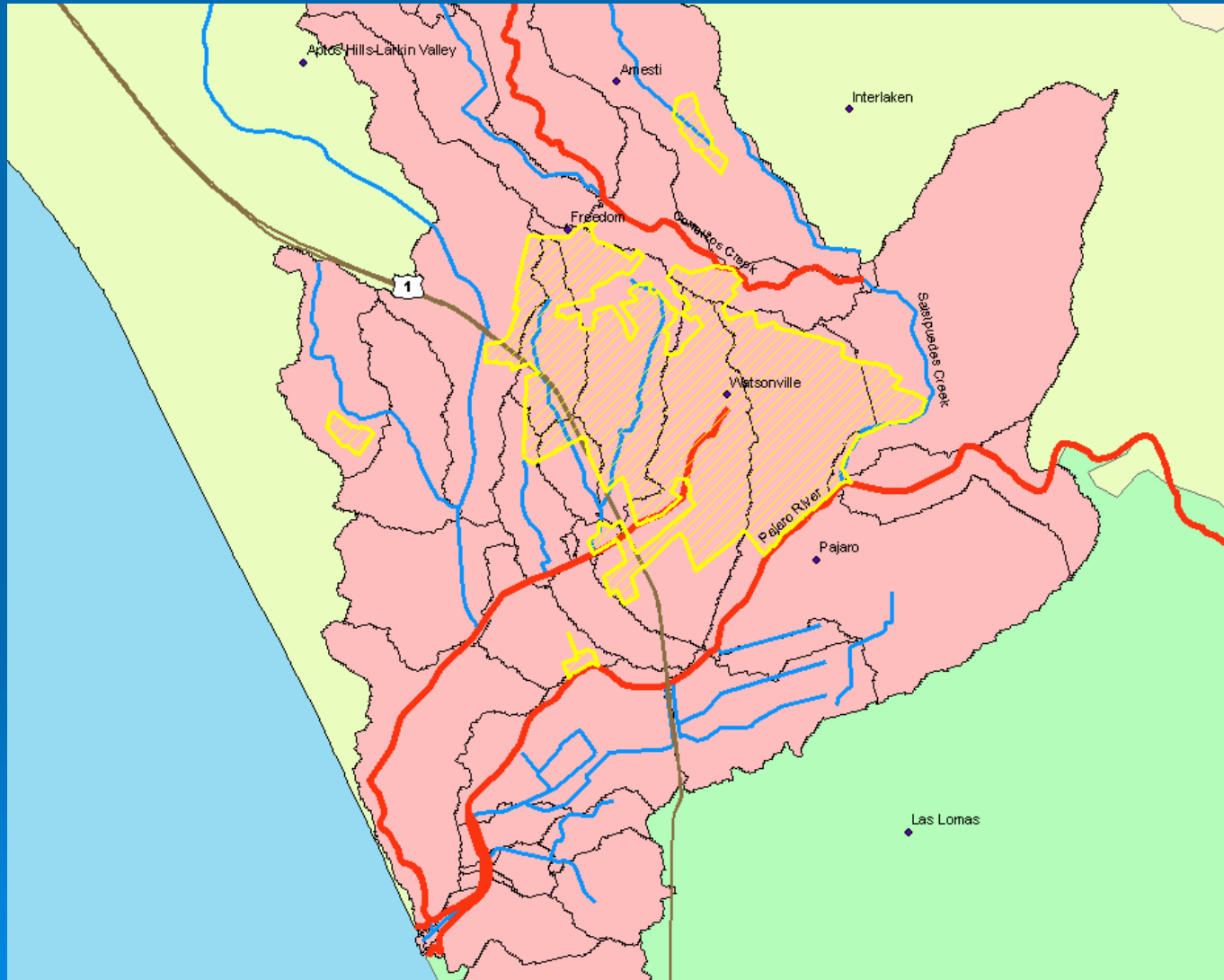
## ➤ 303d List of Impaired Water Bodies

- Bean Creek
  - Sedimentation (Sources: Road construction, land development, resource extraction, erosion, nonpoint sources)
    - Currently being addressed under the Implementation Plan for the San Lorenzo River Sediment TMDL

# City of Scotts Valley

- Summary of Primary Pollutants of Concern
  - Fecal Indicator Bacteria
  - Sedimentation

# City of Watsonville



# City of Watsonville

## ➤ TMDLs Adopted by Water Board

- Pajaro River
  - Sedimentation (Sources: Land development, roads, hydromodification, urban runoff)
  - Nitrate (Sources: landscape maintenance, septage disposal, domesticated animal waste)
- Watsonville Slough
  - Fecal Indicator Bacteria (Sources: urban runoff, manure application, nonpoint sources)



# City of Watsonville

## ➤ 303d List of Impaired Water Bodies

- Pajaro River
  - Fecal Indicator Bacteria (Sources: grazing, nonpoint sources, natural sources)
- Watsonville Slough
  - Pesticides (Sources: Agriculture, nonpoint sources)
- Corralitos/Salsipuedes Creek
  - Fecal Indicator Bacteria (Sources unknown)

# City of Watsonville

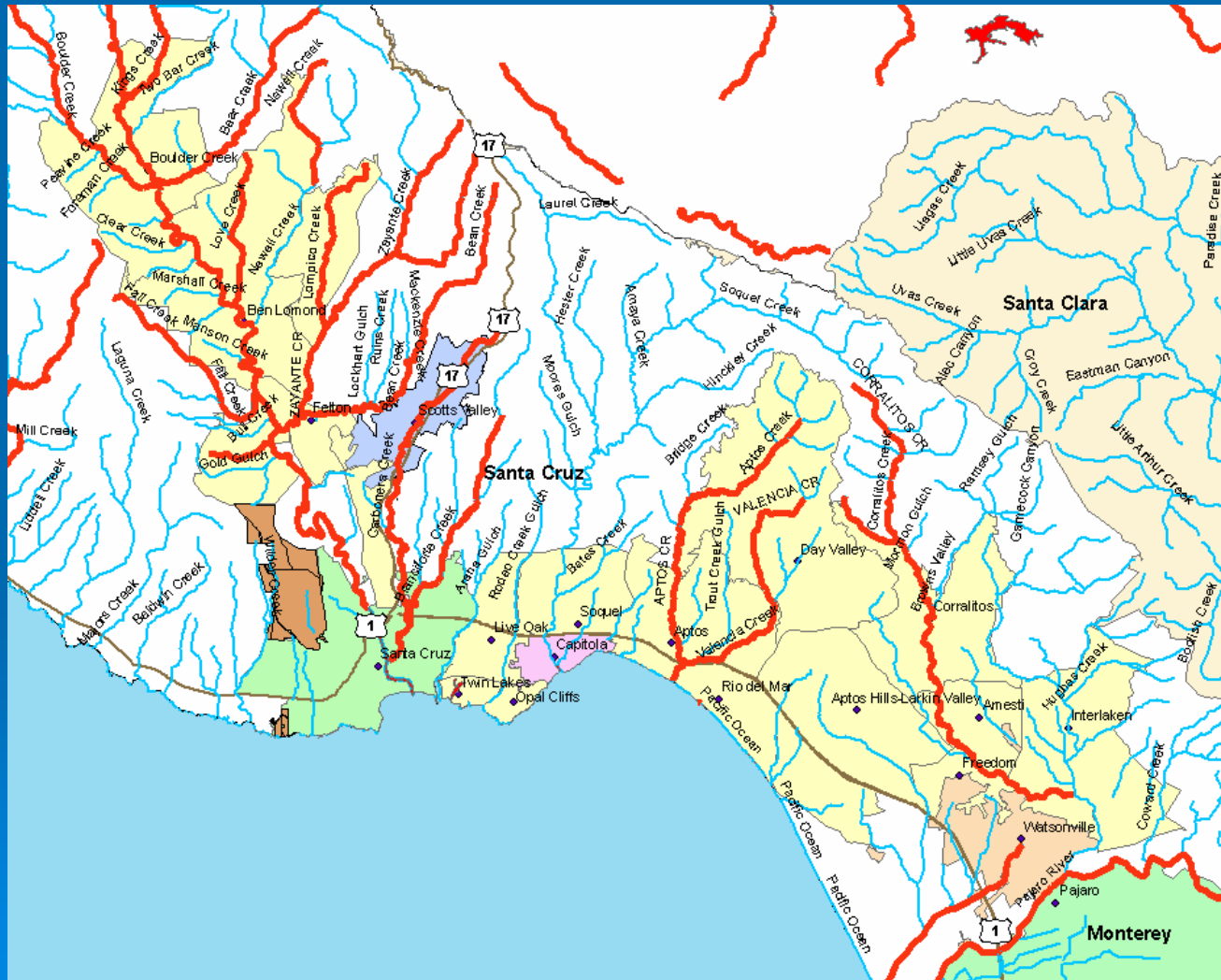
- Other Water Quality Issues (CCAMP and other)
  - Toxicity
    - Harkins Slough, Watsonville Slough, Corralitos/Salsipuedes Creek (lethal effects observed)
    - Pajaro River (sub-lethal effects observed)
  - Trash (Corralitos/Salsipuedes Creek and Pajaro River)
  - Construction Activity
  - Industrial Activity
  - Sediment entering MS4 from agricultural operations

# City of Watsonville

## ➤ Summary of Primary Pollutants of Concern

- Fecal Indicator Bacteria
- Sedimentation
- Nitrate
- Toxicity/Pesticides
- Trash

# County of Santa Cruz and City of Capitola



# County of Santa Cruz

## ➤ TMDLs Adopted by Water Board

- Fecal Indicator Bacteria

- San Lorenzo River, Branciforte Creek, Carbonera Creek, Lompico Creek, Camp Evers Creek, Watsonville Slough, Aptos Creek, Valencia Creek, Soquel Creek, Noble Gulch, Trout Gulch
- Sources: Urban runoff, domesticated animal waste, manure application, septage disposal, nonpoint sources, natural sources

- Sediment

- San Lorenzo River, Carbonera Creek, Lompico Creek, Shingle Mill Creek, Pajaro River, Rider Creek
- Sources: Land development, urban runoff, roads, nonpoint sources, silviculture

- Nitrate

- Pajaro River
- Sources: Landscape maintenance, domesticated animal waste, septage disposal, nonpoint sources

# County of Santa Cruz

## ➤ 303d List of Impaired Water Bodies

- Fecal Indicator Bacteria
  - Corralitos/Salsipuedes Creek, Rio Del Mar, Pajaro River, and Schwan Lake
- Sedimentation
  - Aptos Creek, Valencia Creek
  - Branciforte Creek, Bear Creek, Bean Creek, Boulder Creek, Fall Creek, Kings Creek, Love Creek, Newell Creek, Zayante Creek, and Mountain Charlie Gulch
    - Currently being addressed under the Implementation Plan for the San Lorenzo River Sediment TMDL

# County of Santa Cruz

## ➤ 303d List of Impaired Water Bodies Cont.

- Nutrients
  - Schwan Lake
- Pesticides
  - Watsonville Slough

# County of Santa Cruz

## ➤ Other Water Quality Issues (CCAMP)

- Toxicity
  - Harkins Slough, Watsonville Slough, Salsipuedes Creek (lethal effects observed)
  - Arana Gulch (one lethal effect observed)
  - Pajaro River (sub-lethal effects observed)
  - San Lorenzo River (sub-lethal effects observed)
  - Zayante Creek (sub-lethal effects observed)
- Trash
  - Pajaro River & Corallitos/Salsipuedes Creek



# County of Santa Cruz

## ➤ Summary of Primary Pollutants of Concern

- Sedimentation
- Fecal Indicator Bacteria
- Nutrients
- Pesticides/Toxicity
- Trash

# City of Capitola

- TMDLs Adopted by Water Board
  - Fecal Indicator Bacteria
    - Soquel Lagoon, Soquel Creek, Noble Gulch
    - Sources: Urban runoff, domesticated animal waste, manure application, septage disposal, nonpoint sources, natural sources

# City of Capitola

- 303d List of Impaired Water Bodies
  - Capitola Beach
    - Fecal Indicator Bacteria (Sources unknown)
  - Soquel Lagoon
    - Nutrients (Sources: septage disposal, nonpoint sources)
    - Sedimentation (Sources: land development)

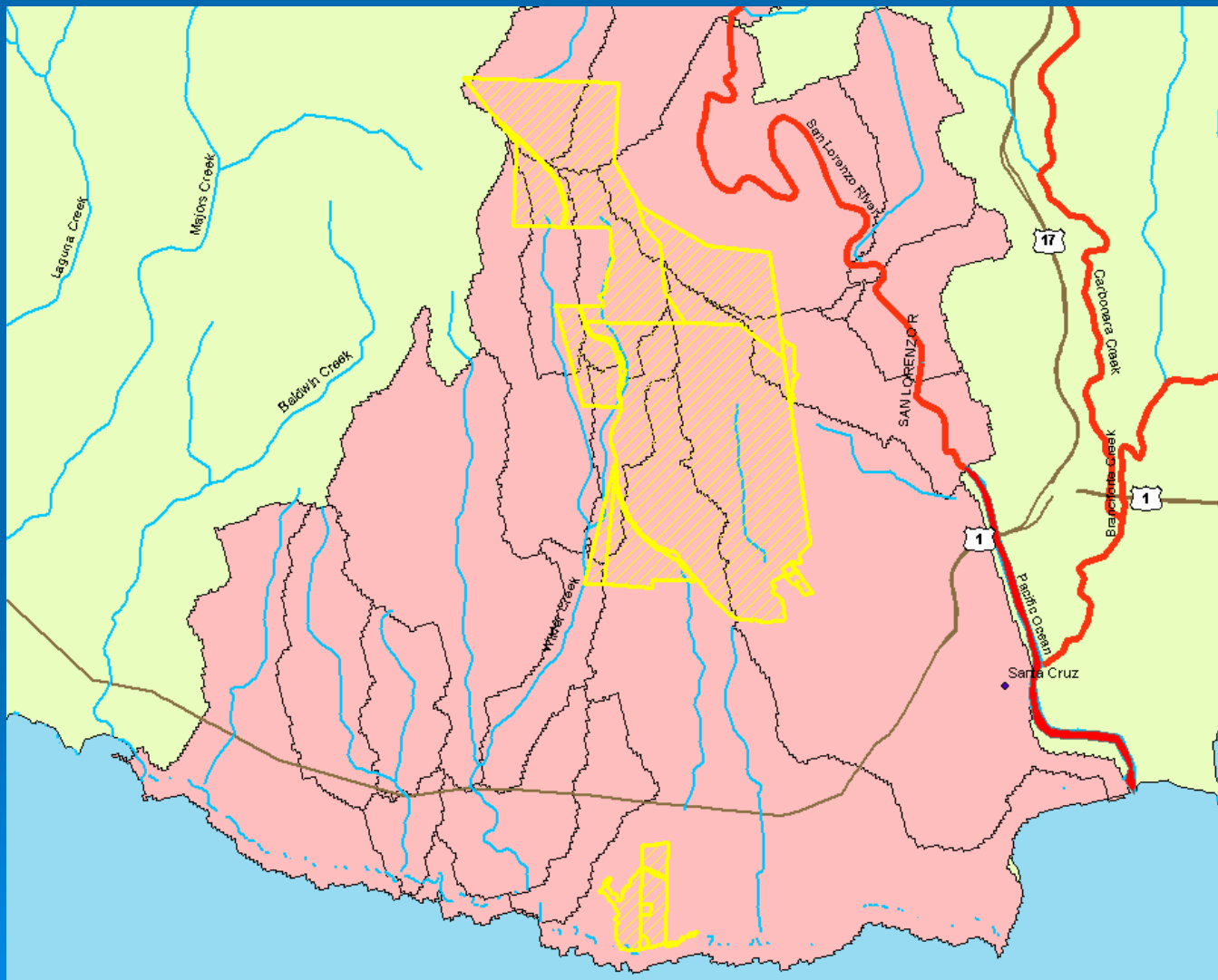
# City of Capitola

- Other Water Quality Issues
  - Monterey Bay Sanctuary Citizen Watershed Monitoring Network
    - Copper and Zinc
      - Observed at elevated levels in storm water discharges during first significant storm events of rain seasons

# City of Capitola

- Summary of Primary Pollutants of Concern
  - Fecal Indicator Bacteria
  - Sedimentation
  - Nutrients

# UC Santa Cruz



# UC Santa Cruz

## ➤ TMDLs Adopted by Water Board

- Fecal Indicator Bacteria
  - San Lorenzo River and Lagoon
  - Sources: Urban runoff, nonpoint sources, natural sources
- Sediment
  - San Lorenzo River
  - Sources: Land development, urban runoff, nonpoint sources

# UC Santa Cruz

- Other Potential Water Quality Issues
  - Construction (sedimentation)
  - Hydromodification (sedimentation)
  - Pesticides
- Summary of Primary Pollutants of Concern
  - Fecal Indicator Bacteria
  - Sedimentation



# Information and Updates

- [http://www.waterboards.ca.gov/centralcoast/stormwater/municipal/phase\\_2/ms4enrollment/enrollment\\_strategy\\_index.htm](http://www.waterboards.ca.gov/centralcoast/stormwater/municipal/phase_2/ms4enrollment/enrollment_strategy_index.htm)